SUPPLEMENTAL EXHBIT TO PLAINTIFF'S OPPOSITION TO DEFENDANTS' MOTION TO EXCLUDE THE OPINIONS OF W. RICHARD LATON

Excerpts From Deposition of Dr. Epler August 2, 2022 Testimony Used in Plaintiff's MOL in Opposition to Motion to Exclude the Opinions of Dr. W. Richard Laton

IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF NEW YORK

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ROSALIE ROMANO, et al., Plaintiffs,	:	Case No: 16-cv-5760
v.	:	
NORTHROP GRUMMAN CORPORATION; NORTHROP GRUMMAN SYSTEMS CORPORATION, Defendants.	:	

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August 2, 2022

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Remote videotape deposition of NATHAN EPLER, Ph.D., P.G., LEP, conducted at the location of the witness in Islandia, New York, commencing at 10:00 a.m., on the above date, before Kimberly A. Cahill, a Federally Approved Registered Merit Reporter, Certified Court Reporter, and Notary Public.

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objection to form. You can answer.

THE WITNESS: Okay.

I've worked on several large-scale projects, as my industry would define them, large industrial Superfund sites, high-profile sites that are in the public view, some of them, you know, hundreds of acres, involving Fortune 500 corporations.

So, yes, I would consider that I've worked on several very large, high-profile projects.

BY MR. GITELMAN:

Q. So just general question, not specifically to this site or any other site. So when you're trying to assess environmental impact of contamination, an industrial site or large-scale environmental project, would you -- if you come aboard, would you look at the history of the site?

A. Inasmuch as that history

exists in previous reports, it would probably be the first thing that I would do.

Q. Would you also look at -- you would also look at history of operations at the site; correct?

A. Inasmuch as that history exists and it's relevant to what I am tasked to do, yes.

Q. And if you're dealing with, let's say, groundwater plume, you would also looked at chemicals used at the facility; correct?

A. Could you clarify or rephrase the question? I can't answer it as asked.

Q. I'm sorry?

A. I can't answer it as asked. It's too vague.

Q. Okay. So if you're looking -- if you working on large-scale environmental project where you have groundwater contamination plume and you have to investigate that plume, would you

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and extent of site contamination or releases or anything like that. I just know what I need to do to engineer a solution.

Q. Fair enough. If one of your tasks would be determining where the pollution originated from, would you need to know -- would you look at the history of chemicals disposed at the site?

A. Yes.

Q. Would you look at -- if you're investigating the plume, would you look at the environmental disposal practices at the site?

MR. MILLER: Objection to form.

THE WITNESS: It depends on what I was tasked to do. I'm not trying to be difficult. I'm just saying that I've worked on large contaminant plumes without knowing anything about the history of disposal or sources for many years.

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background of opinions -- page 3 of the actual report. It's page 5 -- go back a page -- background of Dr. Laton's opinions.

BY MR. GITELMAN:

Q. The second paragraph reads: Dr. Laton's methodology used to propose the property damage class boundary which was to be based on vapor intrusion (VI) risk is flawed and not applicable to the conditions in the proposed property damage class area.

Do you see that?

A. Yes. Yes.

Q. Do you agree that Dr. Laton does not state in his report that he calculated the actual vapor intrusion?

A. To the best of my recollection, he did not calculate whether -- I'm sorry. Your question is a little vague. You said calculate an actual vapor intrusion, do you mean -- what do you mean by that? Do you mean concentration or --

Q. Actual risk of vapor intrusion.

A. He did not calculate an actual risk.

Q. Would you agree that he opined about the potential risk for vapor intrusion in the proposed property damage class area?

MR. MILLER: Objection to form.

THE WITNESS: Yes, it's my understanding that that was his goal of this report.

BY MR. GITELMAN:

Q. So your understanding of this is that opinion of Dr. Laton that you're rebutting in your report that Dr. Laton proposed property damage class boundary based on potential for vapor intrusion from the contaminated groundwater plume. Right?

MR. MILLER: Objection to form.

THE WITNESS: Could you

restate the question?

MR. GITELMAN: Yes.

BY MR. GITELMAN:

Q. So do you understand that Dr. Laton proposed property damage class area based on potential for vapor intrusion from the contaminated groundwater plume?

I'm not asking if you agree with that. I'm asking if that's your understanding --

A. Just taking time to think.

Q. Okay.

A. Yes, I would say in general that it's my understanding that he based his risk of vapor -- of potential risk of vapor intrusion in the proposed property damage class area based upon the extent of impacted groundwater.

Q. And in doing so, he used a horizontal extent of groundwater plume as far as delineated to 5 parts per billion of TCE. Right?

A. Yes.

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So throughout your rebuttal report, you are saying that because there is a layer of clean water, that vapor intrusion is not possible; is that accurate?

A. Because there's a layer of clean water, I think what I said was, there is not a complete closure pathway. I don't know if I used the word that it's not possible.

I think I quoted regulatory agencies with respect to what they said about having a layer of clean water and no source of the water table with respect to --

Q. How do you -- how do you define clean water?

A. In my business, clean water is defined as not having contamination above regulatory guidance values, criteria, standards, or screening levels, depending on the constituent of concern.

Q. In this particular case, if we're talking about TCE, what would you

define as clean water?

A. In my industry, we would define the water as -- we don't use the word "clean," okay, that's not a technical term. So we wouldn't say clean water. We would say water that does not contain TCE at or above the standard -- the drinking water standard, which is 5 micrograms per liter.

MR. GITELMAN: Give me one second.

(Pause.)

MR. GITELMAN: Give me one second, Dr. Epler.

THE WITNESS: Sure. Take your time.

(Pause.)

MR. GITELMAN: Dave, can you pull up Dr. Epler's report? It's page 2 -- I mean Exhibit 2, page 10 -- page 13 of the PDF.

BY MR. GITELMAN:

Q. So paragraph 6 says: The first detections of TCE beneath the

property damage class area are most often overlain by groundwater with no detected TCE or TCE at very low concentrations, suggesting that a layer of clean groundwater is present above the impacted groundwater.

So you do refer to this layer as a clean water in your report and there are some other instances of that.

What do you mean by not referring in your report to a clean water?

A. Okay. You caught me on that one. I should have said a layer of groundwater that is in compliance with potable water standards, in retrospect.

Q. You then go on on page 18, page 21 of the report, the last paragraph, you do say, second sentence: If there is clean groundwater (i.e., groundwater with no VOCs detected) at the water table interface and above a zone of impacted groundwater -- sorry?

A. Where are you reading?

Where are you reading?

Q. Last paragraph.

A. Okay. So I qualify it with no VOCs detected at the water table interface, yes.

Q. No VOCs detected, what do you mean by no VOCs detected?

A. That means exactly what it says. All laboratory methods have a detection limit and typically that detection limit has to be below the standard, and so that means no VOCs were detected at a level above the detection limit.

Q. And wouldn't you agree that, first, detection level -- detection limit is often depending on the amount of sample, how a sample is collected, and may not be related to the minimum level required by the regulation?

A. That can be the case, especially when --

Q. Do you -- Dr. Laton opined -- in this particular case, the

TCE plume Dr. Laton uses is the plume delineated to the 5 parts per billion of TCE in groundwater; is that correct?

A. I'm sorry. I was coughing. Could you repeat the question? I apologize.

Q. No worries. In Dr. Laton's report, he use TCE plume in groundwater as delineated to 5 parts per billion; is that correct?

A. You -- you have to -- that question is vague and not clear, so if you could rephrase it?

Q. Dr. Laton in his report uses the plume of TCE delineated to 5 parts per billion; is that true?

(Pause.)

THE WITNESS: I'm sorry. I can't answer that question as asked. Could you please rephrase --

MR. GITELMAN: Sure.

BY MR. GITELMAN:

Q. If you go to page 3 of Dr.

Epler's report, page 6 of PDF, second paragraph from the top -- it's not on the one you were looking at -- Dr. Laton used maps of contaminant plumes, including TCE and other groundwater contaminants, from Navy-Northrop Grumman and New York State DEC.

It goes on to say -- Dr. Laton also refers to the plume as mapped in the 2019 AROD, which shows the area that exceeds TCE groundwater standards of 5 parts per billion, or 5 milligrams per liter.

Do you agree with that statement?

A. Yes. I agree with that is what he did.

Q. Right. So when we talked about clean groundwater, you indicated or intimated that clean groundwater refers to the groundwater where TCE concentration is below that standard; is that accurate?

A. Well, that's not my opinion.

That's what the regulators say. And, actually, you know, what I said about clean before, that it is not a technical term that we use on the street, was in fact incorrect, because I saw that it was used by the DOH in defining clean groundwater above a plume.

So, yes, it would be correct to say that --

Q. So --

A. -- our industry definition of clean, it would be nondetect or below the standard.

Q. You keep referring to industry standard. Is there a codified somewhere or is it the subject source that you're referring to? Is it your -- is it your opinion based on your experience?

A. Well, first of all, as I said, I misspoke regarding the word "clean." And when I say standard practice, it's based on my 32 years of experience, yes.

Q. And you misspoke it a few times in your report as well, but moving on --

A. I'm sorry?

Q. -- the standard for TCE is 5 parts per billion, right, for the drink -- it's the drinking water standard; is that correct?

A. Yes.

Q. In Dr. Laton's report, in his opinion 17, he opines that there is a potential for groundwater -- a potential for vapor intrusion of TCE above the screening level, and he calculates it to be 1.12 parts per billion. At least that's what Dr. Laton's opinion is. Right?

A. That is his opinion.

Q. I understand. I'm not asking you to agree with it. I'm asking you that's Dr. Laton's opinion.

A. Yes, I'm agreeing that it's his opinion as is written in his report.

Q. Okay. So if we look at Dr.

Laton's opinion where he opines that groundwater concentration of 1.12 parts per billion could cause potential for vapor intrusion in subject -- in the property damage class area, that would fall into your definition of clean water.

MR. MILLER: Objection to form.

MR. GITELMAN: Even though "clean" may not be the right term.

MR. MILLER: Same objection.

MR. GITELMAN: You can answer.

THE WITNESS: I don't recall whether the 0.012 was a soil vapor or groundwater concentration. Either way, it was --

MR. GITELMAN: Groundwater.

THE WITNESS: Okay. I don't know where he came up with that and that's incorrect. So --

BY MR. GITELMAN:

Q. It's probably going to go faster if you listen to the question.

A. Okay.

Q. I understand that you -- I understand you disagree with Dr. Laton's opinion and his calculation. My question is that he calculate -- in his opinion, opinion number 17 -- let's look at it.

A. Yeah.

MR. GITELMAN: Dave, can you pull up Dr. Laton's report? I forgot what exhibit it was -- yeah, number 9 on your list. Can you scroll -- actually, it was in Dr. Epler's report as well. You can use Dr. Epler's report so we don't jump from one document to another.

(Pause.)

THE VIDEO TECHNICIAN: I apologize. Can we go off the record for one second?

MR. GITELMAN: Yes.

THE VIDEO TECHNICIAN: We're going to go off the record, 3:02 p.m.

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(A discussion off the record occurred.)

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THE VIDEO TECHNICIAN: We're back on the record at 3:03 p.m.

MR. GITELMAN: Thank you.

BY MR. GITELMAN:

Q. This is page 5 of your report. Number 17, which you -- like we talked earlier, you labeled Dr. Laton's opinion bullet points with numbers, number 17, vapor intrusion: The level of TCE within the groundwater that would pose a risk of overlying properties is 1.2 microgram per liter. This level is based on the USEPA attenuation factor of .03 for groundwater. To date, the TCE plume has only been mapped to 5 parts per billion, 5 micrograms per liter, which is four times greater than the potential of risk level, according to the USEPA.

And I submit to you that there is a typo here as part of the

attenuation factor it's .001.

But this is Dr. Laton's opinion that you're rebutting; is that accurate?

A. That is Dr. Laton's opinion.

Q. And according to Dr. Laton, your risk -- potential of risk of TCE vapor intrusion lies when the groundwater concentration is 1.2 micrograms per liter; is that correct? Is that what Dr. Laton opined?

A. That is what Dr. Laton points out. It's woefully correct.

Q. I understand that you disagree with Dr. Laton.

1.2 micrograms per liter is less than 5 parts per billion and that would fall into, quote, unquote, clean water above the plume in your definition; is that correct?

MR. MILLER: Objection to form.

(Pause.)

MR. GITELMAN: In other

words -- let me rephrase it, Dr. Epler.

THE WITNESS: Yes, please.

BY MR. GITELMAN:

Q. If the groundwater -- if the groundwater at the water table was 1.2 micrograms per liter, you would consider it as clean water; correct?

A. I wouldn't consider it. It would fall under the definition of clean based upon regulatory standards. I'm not making that determination. The determination is made by the regulators and their standards.

Q. But we're talking about drinking water standard. Right?

A. Yes.

Q. So under your definition -- under your definition as you follow the regulators, if the groundwater -- if the concentration of TCE in groundwater at the groundwater table is 1.2 parts per billion, would be considered clean water under --

A. Yes.
Q. -- your view; correct?
A. Yes.
Q. What would you consider -- if the concentration at the groundwater table was 14 parts per billion, would you consider it clean water?
A. I would consider that above the drinking water standard.
MR. GITELMAN: Okay. Can we go to -- I just want to show you a few diagrams and one of them is page 16 of Dr. Epler's report.
Dave? Dave, we lost you. Page 16? Yes, this picture.
BY MR. GITELMAN:
Q. In your report, on page 16 of your report, you reproduced a picture from the EPA; is that correct?
A. Yes.
Q. And --
A. Yes.
Q. I'm sorry?
A. Yes.

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THE WITNESS: Do I agree that TCE is present in groundwater under property damage class area, is that your question?

MR. GITELMAN: Yes.

(Pause.)

MR. GITELMAN: Let me make it simpler. Do you agree that there is VOCs including TCE --

THE WITNESS: I was thinking about the answer, but go ahead.

BY MR. GITELMAN:

Q. Do you agree that there are VOCs including TCE in the plume below -- in the plume delineated to 5 parts per billion below the property damage class area?

MR. MILLER: Objection to form.

THE WITNESS: Yes, in most cases, at least 50 to a hundred feet and in most cases several hundred feet below, yes.

MR. GITELMAN: I understand.

Can you please answer the question I ask? If you want to clarify it, you can say so.

But do you agree that VOCs are in the plume; correct?

THE WITNESS: I'd like to clarify my answer then. There are VOCs below the house -- below the homes, but that doesn't tell you anything.

BY MR. GITELMAN:

Q. Do you agree that vapors have a route along which to migrate above the groundwater table?

A. Repeat the question, please?

Q. Do you agree that vapors have a route along which to migrate above the water table in the property damage class area?

A. I can't answer that question without more information.

Q. Are you familiar with the --

A. You have to look at it on a site-specific basis before you can answer

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TCE was present at the water table, if so was the concentration high enough to take into account a generic attenuation factor as well as the depth to the water table, taking all those into account. That's how I made my determination.

BY MR. GITELMAN:

Q. Where in your report do you do any of this calculation?

A. These are not --

Q. You mentioned attenuation factor. What -- did you do any calculations?

A. No. I obtained a generic -- since we do not have site-specific data and I did not have access to site-specific data, that is the purpose of generic attenuation factors.

Q. Okay.

A. And I believe -- I believe I cite in my report the generic attenuation factor recommended by one of the guidance

documents.

Q. Right. And it was .001; is that correct?

A. That sounds right.

Q. Once you looked at the reference source -- and it's attenuation factor groundwater to indoor air; is that correct?

MR. MILLER: Objection to form.

THE WITNESS: It might -- there are attenuation factors from groundwater to the surface and then there's attenuation factors across the slab or basement.

I do not recall which this was or this may just take everything into account and be from the water table to indoor air.

MR. GITELMAN: Just a second.

Dave, can you pull Dr. Laton's report? Page 70 of PDF.

70, 7-0.

BY MR. GITELMAN:

Q. Dr. Epler, table 10 in Dr. Laton's report lists attenuation factors from EPA 2015 OSWER from page 110. We can look up that document.

Do you agree that this is an accurate presentation of what OSWER attenuation factors are?

MR. MILLER: Object to the form.

THE WITNESS: Well, since I think he got one wrong, I would want to check these against the --

MR. GITELMAN: Okay. We'll pull --

THE WITNESS: Usually as part of my due diligence, I would check to make sure he got --

MR. GITELMAN: I understand that. I stated earlier Dr. Laton made a -- there was a typo in his opinion, but here it says .01.

Dave, can you pull up OSWER

2015, page 110? I think it's referenced by Dr. Laton there? 110.

(Pause.)

THE VIDEO TECHNICIAN: I'm at page 98. Do you want me to scroll up to 110?

MR. GITELMAN: Yes. Yes.

BY MR. GITELMAN:

Q. Table 6 Recommended Vapor Attenuation Factors for Risk-Based Screening of the Vapor Intrusion Pathway, do you see that?

A. Yes.

Q. And it says: Groundwater -- the first one, sampling medium: Groundwater - generic value except for shallow water tables less than 5 feet below foundation, the presence of preferential vapor migration in vadose zone soils.

Do you see that?

A. Yes.

Q. And attenuation factor is

.001.

A. Okay.

Q. So that's attenuation factor that's in groundwater and soil vapor. Would you agree with that?

MR. MILLER: Objection to form.

BY MR. GITELMAN:

Q. How do you use this -- go ahead. You didn't answer.

A. I use it in my report just to point out that his attenuation factor was incorrect.

Q. Dr. Epler, is this the correct attenuation factor .001?

A. This is his -- where is this from?

Q. 2015 OSWER report.

A. Oh, this is OSWER. Okay. So then, yes, OSWER probably got it right, yes.

Q. OSWER got it right. Okay. What do you do then in your -- in your report, you mention generic attenuation

factor of .001. What did you -- you didn't do any calculations with that -- what did you do with that in rendering your opinion?

MR. MILLER: Object to form.

THE WITNESS: I believe what you would do is multiply the concentration at the water table by that attenuation factor to give an estimate at a screening level of what you may have in indoor air.

BY MR. GITELMAN:

Q. And concentrations at water table, it is your interpretation of the guidance; correct?

A. Yes.

MR. GITELMAN: So remember the table we looked at, RSL standards, and we looked at -- specifically for -- one for dioxane. If we'll look at that exhibit, there is a number there for TCE.

Dave, can you pull up that? It was one of the first exhibits? Regional screening levels?

(Pause.)

MR. GITELMAN: Number 8. Go to page 10.

BY MR. GITELMAN:

Q. Do you see trichloro -- trichloroethylene? We looked at it earlier. These are resident ambient air tables, target with concentrations.

Do you remember that, Dr. Epler?

A. Yes, I remember, but I think you have to scroll down to get to TCE.

Q. Yeah, TCE --

A. It's right there, trichloroethylene, okay.

Q. Stop.

A. Trichloroethylene, which is an alternate name, okay.

Q. And the target concentration -- the target risk would be .48 micrograms per cubic meter; correct?

A. Yes.

MR. GITELMAN: Dave, you didn't pull this exhibit yet. Can you go to -- yes, go ahead, Dr. Epler.

THE WITNESS: Well, just go to the top of the column and let's see exactly what that means.

MR. GITELMAN: Okay.

THE WITNESS: It's a carcinogenic screening level with a target risk of one in a million.

MR. GITELMAN: Okay.

Dave, I sent you two exhibits earlier today. This was one of them. Can you pull the other?

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(Deposition Exhibit No. P-19, May 2014 USEPA Vapor Intrusion Screening Level (VISL) Calculator User's Guide, was marked for identification.)

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MR. GITELMAN: Dr. Epler, this was downloaded from the same EPA site. We can go and follow URL, but have you ever seen this document?

It's USEPA vapor intrusion screening level (VISL) calculator user's guide, dated May 2014.

THE WITNESS: Yes, I have seen this document.

BY MR. GITELMAN:

Q. And basically on EPA website, there is a calculator where -- interactive calculator where you can go and do all the calculations so you wouldn't have to do it manually. Right?

MR. MILLER: Objection to form.

THE WITNESS: I believe so. I certainly have not used this calculator in a long time.

BY MR. GITELMAN:

Q. Have you ever used it?

A. One would assume if it's an

online calculator, that that would be its purposes.

Q. I'm sorry. Can you repeat that?

A. One would assume that if it's online calculator, that would be its purpose.

Q. Yes, it's an online calculator -- Dave, can you go to page 8 -- page 8 of this document, yes. Go to the top.

Dr. Epler, do you see the bold line "Target Groundwater Concentration Corresponding to Target Indoor Air Concentrations," column I?

A. Yes.

Q. And column I refers to the Excel table that pops up when you go to EPA website to do the calculation. Right?

MR. MILLER: Objection to form.

BY MR. GITELMAN:

Q. Would you agree with that?

A. I don't know because I -- like I said, I have not run this myself in --

Q. The first -- the first formula that you see -- let's read it: The target groundwater concentration corresponding to chemical's target indoor air concentration is calculated by dividing the target indoor air concentration by attenuation factor of .001 and then converting the vapor concentration to an equivalent groundwater concentration, assuming equilibrium between the aqueous and vapor phases at the water table. The equilibrium partitioning is assumed to obey Henry's Law so that -- and there is a formula.

A. That's Henry's Law, correct.

Q. Do you generally agree that -- and the formula is C ground -- GW, which is target groundwater concentration in micrograms per cubic liter, equals target of indoor air concentration

divided over Henry's Law Constant, and multiplied by attenuation factor times thousand liters per cubic meter.

Do you -- does that formula seem to be accurate?

A. That is how the equation reads.

Q. What is Henry's Law Constant?

A. In a simple sense, it is -- it describes the equilibrium vapor pressure between a dissolved phase volatile compound in water with the vapor phase -- it describes equilibrium between dissolved phase and the vapor phase in a closed container of a volatile organic compound at equilibrium.

Q. How do you determine Henry Law Constant for TCE?

A. I believe -- well -- I would have to guess.

Q. You don't know for sure?

A. I don't know for sure, but I generally understand it -- go ahead.

Q. So do you understand this formula to be if all -- strike that. The target indoor air concentration would -- for TCE, would that be .48 micrograms per meter, we just looked at the table?

MR. MILLER: Objection to form.

THE WITNESS: Can you go back to the table? Okay. It was .48 for a target risk of one in a million --

MR. GITELMAN: Correct.

THE WITNESS: -- it might be different in New York State using the matrices, but that table, as I recall, specified that if you want a target of one in a million cancer risk, excess lifetime cancer risk, your target concentration for indoor air should be 0.48 micrograms per cubic meter.

BY MR. GITELMAN:

Q. And attenuation factors here

would be .001; correct?
A. The generic -- default value. They call it a default value --
Q. And --
A. -- not knowing a site-specific value.
Q. And Henry's Law Constant, which you don't recall how to obtain, can be looked up and a specific number for each specific chemical at a certain temperature; is that correct?
A. Yes, it's dependent on temperature.
Q. So if one would plug in those numbers, .48 on top, the numerator, and Henry's Law Constant, the denominator, and .001 for attenuation factor for groundwater to indoor air, multiplied by the unit conversion, one would get the target concentration in groundwater above which you would have to screen -- anticipate or screen for indoor groundwater -- indoor soil vapor intrusion; wouldn't that be correct?

MR. MILLER: Objection to form.

MR. GITELMAN: It's been a long day --

THE WITNESS: That was a mouthful. I'm just trying to follow the question. Could you possibly rephrase that?

MR. GITELMAN: Yes.

BY MR. GITELMAN:

Q. So if I -- I know target air, we just discussed it, .48 micrograms per cubic meter. We know attenuation factor. If we look up the tables for Henry's Law Constant and plug it in, if you would do this math, the result would be the target groundwater concentrations in micrograms per liter, at which time there would be potential for soil vapor intrusion at the target indoor air concentration.

MR. MILLER: Objection to form.

(Pause.)

MR. GITELMAN: I'll help you out a little bit. Isn't that what the paragraph states before, the target groundwater concentration --

THE WITNESS: Yes. I mean -- yes, it does state that, but I -- I don't have access to the entire document to understand all of the assumptions that go into this.

MR. GITELMAN: Fair enough.

THE WITNESS: But every -- every calculation like this has assumptions and I -- and I would want to know by reading the entire document exactly whether it's appropriate.

But the answer to -- the answer to your question, yes.

BY MR. GITELMAN:

Q. In the paragraph you were looking at, the target groundwater concentration, et cetera, does it say

anywhere that you have to -- the target groundwater concentration is at the groundwater table?

MR. MILLER: Objection to form.

THE WITNESS: Well, the Henry -- that's actually in -- that assumption is in the Henry's Law Constant, actually. If you don't have -- if you don't have a dissolved phase at the water table in contact with the vapor phase, which the Henry's Law Constant assumes, then it would be invalid to use the Henry's Law Constant.

You have to have dissolved phase of the water table in contact with vapor phase in the vadose zone in order for the Henry's Law Constant to be applicable.

BY MR. GITELMAN:

Q. And we talked about it that you look at a sample, look at the data,

and there were groundwater samples taken at the groundwater table that show presence of TCE above 5 parts per billion?

A. Yes.

MR. GITELMAN: Can we take five-minute break? And I think I'm almost done. Dave, how much time do I have?

THE VIDEO TECHNICIAN: We're going to go off the record. The time is 6:29 p.m.

(A recess was taken from 6:29 p.m. to 6:37 p.m.)

THE VIDEO TECHNICIAN: We're back on the record at 6:37 p.m.

MR. GITELMAN: Dr. Epler, we're almost done here. I appreciate you spending the entire day here. I just have one question.

BY MR. GITELMAN:

Q. Dr. Laton in his report using the formula we just discussed

calculates the target of groundwater concentration to be 1.12 micrograms per cubic meter -- 1.2 parts per billion.

I understand there are some typos and you disagree with the attenuation factor that he used, he mistyped 0.03. I'll let Dr. Laton deal with that.

But the groundwater concentration, assuming the numbers are correct, .48 and the Henry's Law Constant that he used, he comes up to 1.21 parts per billion.

When you were making your -- when you were making your decision that there is no source, you were looking at groundwater at 5 parts per billion; is that correct?

A. No source that was sufficient to -- I think I qualify -- I think I qualified in my report that the word "source" meant concentrations at the water table high enough to present a vapor intrusion risk.

Q. I understand. But you didn't do any calculations.
A. No, I did not.
MR. GITELMAN: I have no further questions. Thank you very much, Dr. Epler.
THE WITNESS: You're welcome.
MR. GITELMAN: I'm not sure if Mark has any questions for you or anybody else.
THE WITNESS: I'm here.
MR. MILLER: I hate to do this, but could we take a ten-minute break to review my notes -- so I can review my notes?
THE WITNESS: Of course. It's okay with me.
MR. GITELMAN: Thank you, Mark.
THE VIDEO TECHNICIAN: We're going to go off the record at 6:39 p.m.
MR. MILLER: Thank you.